XIII. *Description of Seven new Species of Testacea. By William George Maton, M.D. F.R.S. & A.S. and V.P.L.S.*

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The shells which I am about to describe were referred to me by the Right Hon. Sir Joseph Banks, Bart., K.B., who received them from the æstuary of the *Rio de la Plata*, and who, with his usual liberality, obligingly presented me with specimens, and permitted me to lay a description and figures of them before the Linnean Society.

It is singular that so many new species should have been found collected together in one spot, and still more so, that no one species before described should have formed part of the assemblage. I am induced to think that they were brought down together by some of the tributary streams of the *Rio de la Plata*, from interior parts of the South American continent not hitherto explored by conchologists; the *name* of one of these streams proves that it abounds with natural productions of this tribe, for it is called *Rio di Conchas*. Many of the bivalves were found enveloped in the gelatinous *matrix* (if it may be so denominated) in which they were first deposited, and to which probably all testaceous creatures remain attached (unless removed by mechanical violence) until the calcareous covering which is to form their protection has acquired the requisite degree of firmness. In the present instance, this *matrix*, in its dry state, forms a tough, but

thin, semitransparent substance, not unlike bladder in texture, and soluble in nitrous acid. The young shells are attached to it by their *epidermis*, which, in fact, seems to be merely a membranous expansion of the same substance, and to take its origin from it for the purpose of confining the animal during the formation of the shell. In some species, the attachment of the membrane is so loose, that it is thrown off very soon after the animal is set at liberty; but in others it remains firmly adhering to the calcareous matter during life. Most *fluviatile* shells retain this covering more or less entire, and it is the case with all the species hereunder described, in all their stages of growth. The membrane by which the calcareous matter of the shell is secreted, or deposited, is of a very different nature, and has a more immediate connexion with the contained animal.

1. Mya labiata.

Tab. XXIV. *Fig.* 1, 2, 3.

Mya testa subovali, valvis occlusissimis, alterius margine l abii instar) prominente.

Habitat in America australi, fluviatilis.

Testa firma, transversim striata, epidermide viridi, leviore, deciduâ, intus margaritaceo-polita, anterius subrostrata. Cardinis dens alterius valvæ solidus, subcochleariformis, antrorsum porrectus, foveæ triangulari valvæ oppositæ insertus. Margo hujus (è regione cardinis) quasi truncatus, illius rotundatus, subtenuis. Umbones parum prominentes.

I have not mentioned the size of *Mya labiata* in the above description, not thinking myself warranted so to do, unless I had seen a great number of specimens. Those from which the characters were taken are all of the same size, and about 1 inch in length,

length, and rather more than $\frac{1}{2}$ an inch in width. It is one of the most remarkable bivalves with which I am acquainted, part of the margin of one of the valves projecting over the corresponding part of the other, so as, exactly, to resemble a lip. It is fortunate when so striking a character presents itself, for the species cannot, in such circumstances, be mistaken.

2. Mya variabilis.

Tab. XXIV. *Fig.* 4, 5, 6, 7.

Mya testa subrhombea, gibbosa, umbonibus longitudinaliter corrugatis, cardinis dentibus duobus, apice divergentibus, foveis linearibus invicem insertis.

Habitat in America australi, fluviatilis.

Testa transversim striata, rugis sensim evanescentibus, epidermide viridescente-fuscâ, intus margaritacea, cærulescens, 1 poll. longa (ætate provectâ), vix 1 poll. lata. Margo anterius subangulatus, apud cardinem rectus.

Testa junior minus gibba, subrhomboidea, fragilis, subdiaphana, colore intus purpurascente, rugis multò prominentioribus et ferè ad marginem usque divergentibus.

This species varies extremely in its structure and *contour*, according to its several stages of growth; and, if I had seen only the youngest and the oldest shells, without having had opportunities of comparing those of intermediate ages with each, I should most probably have given them separate places in the genus. There can be no doubt that many other *testacea* (especially in the *genera* of *Mya* and *Mytilus*), at present considered as distinct species, will, from the occurrence of similar opportunities, be found to owe their difference of form solely to difference of age. The most striking character in the younger specimens

of *Mya variabilis* is the radiating *rugæ*, or plaits, which proceed from the *apex* of the *umbones*, and cover nearly the whole of the shell. This circumstance, added to some others, induced me, at first, to look upon this shell as a variety of *Mya corrugata*, of Müller (*Hist. Verm. terr. et fluv.* 2. p. 214. n. 398), but, on consulting the figures of that species given in the *Beschaft des Gesell. Naturf. Freunde zu Berlin*, (tom. 4. p. 35. tab. 3. f. 7. 8), and by Schröter (*Flussconch.* n. 182. tab. 9. f. 3), I at length decided to the contrary, its habit being totally different, though, from the ambiguity of the description given in Gmelin, I might have made a very gross mistake, had I been unable to consult the authors just mentioned. In fig. 6 of the plate annexed to this paper, it will be seen that the *rugæ*, though so strong over the whole of the younger shell (fig. 5), are very indistinct as they pass towards the margin, and in fig. 4, the oldest of the three specimens, they are almost obsolete, except on the decorticated *umbo:* it will be remarked also, that the outline of the shell becomes totally different at its full growth, gradually verging from a subrhomboidal, or somewhat obliquely oval, to a subrhombic or almost orbicular form. As these differences are so marked, no person, I conceive, who duly considers the facts which I have mentioned, will be liable to separate *Mya variabilis* into several species.

3. Tellina limosa.

Tab. XXIV. *Fig.* 8, 9, 10.

Tellina testa æquivalvi, ovata, transversim striata, intus purpurea, umbonibus acutiusculis prominentibus.

Habitat in America australi, fluviatilis.

Testa vix fragilis, glabra, epidermide viridi, margine integro, $\frac{3}{4}$ pollicis longa, $\frac{1}{2}$ pollicis lata.

Fig. 10.

Fig. 10. *Testa junior*, colore extus et intus pallidior, tenuior, subdiaphana.

I have no particular remarks to make on this species, except that it has a good deal of the habit of a *Mactra*. Having no striking character, as to either its figure or colour, it is very liable to be confounded with some other species, though I have endeavoured to describe it with precision; and, had the describers of those shells which are most nearly allied to it been less ambiguous in their definitions, I should not fear that there would be any mistake in referring to its name.

4. Mytilus membranaceus.

Tab. XXIV. *Fig.* 11, 12.

Mytilus testa subrhombea, fragillima, margine anteriore angulata.

Habitat in America australi, fluviatilis.

Testa subdiaphana, 1 poll. longa et lata, subventricosa, ferè membranacea, intus submargaritacea, glaberrima, transversim delicatissimè striata, colore extus viridescente, figura ferè *Myæ variabilis* senioris. Margo ad cardinem rectissimus. Cardo edentulus. Umbones acuti.

I have given the trivial name of *membranaceus* to this *Mytilus*, on account of its extremely thin and tender texture, which forms its most obvious character. The *contour* approaches so nearly to that of *Mya variabilis* in its perfect state, as to render it desirable that they should both be placed in the same genus, did not the hinges so materially differ: in fact, many of the *Myæ* and *Mytili* belong to one natural family, and there is often much difficulty in determining under which name a particular species ought

ought to be placed, for Linnæus has not made the absence of teeth an indispensable character for a *Mytilus*, and some of that genus gape like the *Myæ* at one extremity.

5. Voluta fluviatilis.

Tab. XXIV. *Fig.* 13.

Voluta testa subovali, pellucida, lævi, columella biplicata, apertura integra.

Habitat in America australi, fluviatilis.

Testa vix $\frac{1}{2}$ poll. longa, ultra $\frac{1}{4}$ poll. lata, tenera, flavescente-viridis, maculis brunneis transversim lineato-notata. Anfractus rotundati. Spira prominula.

6. Voluta fluminea.

Tab. XXIV. *Fig.* 14, 15.

Voluta testa obovata, cornea, longitudinaliter delicatissimè striata, apertura integra, columella biplicata, apice acuto, brevissimo.

Habitat in America australi, fluviatilis.

Testa magnitudine precedentis, at ventricosior, anfractibus magis depressis, apice verò tenuior, colore pallidior, obsoletè lineato-maculata, lineis distantioribus.

These *Volutæ* are so nearly allied to each other, that I hesitated at first to consider them as distinct species; yet the characters given above, it is presumed, will sufficiently authorize their separation. The shape of *V. fluviatilis* is almost a perfect oval, but that of *V. fluminea* is obliquely ovated. This variation might be attributed to difference of age, were not the specimens all of equal

equal size; and it ought, moreover, to be remarked, that the latter of these species is most beautifully striated, an appearance not distinguishable in the other, though perhaps obliterated chiefly by the deeper colour and larger size of the spots, which show themselves very strongly quite through to the interior of the shell; the uppermost line of spots, however, on the gibbous part of *V. flumínea*, is pretty deeply marked. There are but few fluviatile shells in this genus, and the two here described are not likely to be confounded with any of them.

7. Helix Platæ.

Tab. XXIV. *Fig.* 16, 17.

Helix testa perforata, subglobosa, lævi, alba, lineis transversis geminis, apertura interrupto-ovali, labio acutiusculo.

Habitat in America australi, fluviatilis.

Testa diametro ¾ pollicis, solidula, epidermide lutescente, lineis purpurascente-brunneis nunc geminis, nunc solitariis et latioribus transversim cincta, labio lacteo in columellam apud umbilicum replicato. Anfractus 4—5, parum rotundati. Spira acuminata.

This is a very elegant species; but, as the number of *Helices* contained in Gmelin's edition of the *Systema Naturæ* is so large, I ought not to pronounce it new with too much confidence. No description given by that author, however, can I consider as applying to the shell which I have here named; nor is the latter very liable to be confounded with others before known, because such of the fluviatile tribe as are elegantly banded are comparatively few. I have taken its trivial name from the *Rio de la Plata*.

Before

Before I conclude this paper, I ought to express my obligation to Mr. James D. Sowerby for the very accurate and excellent drawings with which he has kindly enabled me to illustrate the preceding descriptions, and without which my endeavours to render myself clearly understood might have been very far from being successful.

XIV. *An*